



10526 Gulfdale/P.O. Box 32217/San Antonio, Texas 78216  
(512) 342-4216

Report No. 781-20  
January 7, 1982

Texas Department of Water Resources  
Solid Waste Section  
1700 N. Congress  
Austin, Texas 78711

Attention: Mr. Dick Martin

Re: Classification of Material from Waste Disposal Site  
Kerr-Ban Furniture Manufacturing Co., Inc.

Gentlemen:

Raba-Kistner Consultants, Inc. has been authorized by Mr. J. H. Lemmer, President of Kerr-Ban Furniture Manufacturing Co., Inc. to manage the removal and appropriate disposal of waste materials from a small area of the Kerr-Ban property in San Marcos, Texas. This area had previously been used for land disposal of limited quantities chemical wastes related to furniture manufacturing. The past use of this disposal site is known to TDWR District 8 personnel; Mr. H. Karmei has visited the Kerr-Ban property, inspected the site and is very knowledgeable on matters pertaining to this site. The above mentioned disposal action was precipitated by Kerr-Ban because of the impact of the site on property value. This is a one time disposal action involving approximately 200 cubic yards of earth which has had some furniture manufacturing chemical waste spread on it.

R-KCI has conducted a thorough survey of the use of this disposal site for waste material. It was determined that the site was used for 3 to 4 months in 1976 or 1977 for disposal of small quantities of used thinners, lacquers and paint spray which was captured in the water curtain from paint spray booths. Materials were spread on the ground surface for disposal by evaporation and percolation. The site was only used by Kerr-Ban and was not used by the public or other companies.

On December 17, 1981, Mr. Ed Miller and Mr. Carl Williams (R-KCI) visited the property and inspected the disposal site. A trench had been cut into the site and two soil sample were collected from the trench wall. One sample was in a discolored portion of the soil (0"-24" depth) and the other sample was in normal appearing soil (tan) approximately 3-in. below the discolored soil. In addition, a water sample was taken from a small amount of water which was standing in the east end of the trench.

Laboratory tests of the above soil samples for reactivity and flammability revealed the materials to be inert. Gas chromatograph/mass spectrographic analysis for solvents associated with paints and paint additives, volatile organic compounds, were conducted on each sample. The discolored

ATTACHMENT

soil was found to contain toluene at 0.026 percent by weight and methylene chloride at 0.008 percent by weight. The tan soil contained no toluene and 0.002 percent by weight of methylene chloride. These data indicate very low concentration of solvents in the upper soil and a minimal migration of solvents from the actual disposal area. Since the disposal operation was a surface operation, it is believed that a considerable portion of disposed organic material has evaporated or biodegraded. The analysis of the water did not reveal any organic compounds, in fact, live mosquito larvae were observed in the water sample in our laboratory 24 hours after collection. The analysis indicated that the above samples did not contain any benzene, a particularly hazardous material which could be associated with furniture manufacturing.

On December 24, 1981, R-KCI conducted an exploratory drilling survey of the disposal site to determine its boundaries and its depth. The drilling effort was directed by Mr. D. Smith. During the explorative drilling, Mr. Smith collected three representative samples of the soil within the disposal area and one sample of soil directly beneath the disposal site. This latter sample had no wood chips in it, was not discolored and had all the characteristics of normal undisturbed soil. These samples were subjected to the TDWR extraction procedure and tested for metals and volatile organic compounds. This testing effort was conducted to estimate the toxicity of the material and to obtain information relative to the environmental impact potential of landfill disposal of the waste. All analytical results were far below any hazardous waste criteria and more representative of a relatively innocuous waste material, see Attachment 1.

Based on our observation of the disposal area, its history as a disposal site, analysis of site samples and the results of the TDWR extraction procedure, it is our opinion that the material could be disposed of satisfactorily in a Type I Municipal Solid Waste Disposal Facility.

In order to accomplish removal and disposal of the waste material, we understand that the waste material must be classified by TDWR. We are herein requesting such classification.

If you have any questions on this matter, please do not hesitate to call.

Very truly yours,

RABA-KISTNER CONSULTANTS, INC.

*Carlton R. Williams*  
Carlton R. Williams, P.E.  
Director, Environmental  
Engineering Sciences

CRW/kg

Copies submitted: Above (2)

Mr. V. Francis, District 8, TDWR (1)  
Mr. J. H. Lemmer, Kerr-Ban (1)  
Mr. E. D. Lowe, Wico-Lite (1)

Enclosure: Attachment 1 - Chemical Test Results

ATTACHMENT

# Report of Chemical Analysis

Consulting Geotechnical, Materials and Environmental Engineers,  
Geologists, Scientists and Chemists



Raba-Kistner  
Consultants, Inc.

To:  
Kerr-Ban Furniture Manufacturing Co., Inc.  
I.H. 35  
San Marcos, Texas

10526 Gulftdale/P.O. Box 321  
San Antonio, Texas 78256  
(512) 342-4141

Project No: 781-20  
Date Received: 12-24-81  
Date Reported: 1-6-82  
Submitted By: D. Smith, R-KCI

Sample Description/Code: 6-0623 Soil Sample Disposal Site

## SUMMARY OF ANALYSIS

Determination	Analytical Method	Results	Miscellaneous
Arsenic	206.3 <sup>1,2</sup>	<0.05 mg/L	Leachate <sup>3</sup>
Barium	208.1 <sup>1</sup>	<0.50 mg/L	Leachate <sup>3</sup>
Cadmium	213.1 <sup>1</sup>	<0.10 mg/L	Leachate <sup>3</sup>
Chromium	218.1 <sup>1</sup>	<0.50 mg/L	Leachate <sup>3</sup>
Mercury	245.1 <sup>1,2</sup>	<0.005 mg/L	Leachate <sup>3</sup>
Lead	239.1 <sup>1</sup>	<1.0 mg/L	Leachate <sup>3</sup>
Selenium	270.3 <sup>1,2</sup>	<0.05 mg/L	Leachate <sup>3</sup>
Silver	272.1 <sup>1</sup>	<0.10 mg/L	Leachate <sup>3</sup>

Special Comments: 1 of 2 pages

1. Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020.
2. Modified by NaBH<sub>4</sub> substitution.
3. Texas Department of Water Resources - Modified to single leach of non-dried sample.

Raba-Kistner Consultants, Inc.

by

ATTACHMENT

# Report of Chemical Analysis

Consulting Geotechnical, Materials and Environmental Engineers  
Geologists, Scientists and Chemists



To: Kerr-Bar Furniture Manufacturing Co., Inc.  
I.H. 35  
San Marcos, Texas

Raba-Kistn  
Consultants, Inc.  
10526 Gulfton/P.O. Box 32  
San Antonio, Texas 78  
(512) 342-4

Project No: 781-20  
Date Received: 12-24-81  
Date Reported: 1-6-82  
Submitted By: D. Smith, R-KCI

**Sample Description/Code:** 6-0623

## SUMMARY OF ANALYSIS

Special Comments: 2 of 2 pages

4. Purgeables - Method 624  
49 CFR, part 136 in Federal Register  
Vol. 44, No. 233, Monday, Dec. 3, 1979.

Raba-Kistner Consultants, Inc.

by R. Thiesen ATTACHMENT

<u>COMPOUND</u>	PURGEABLES	<u>CONCENTRATION</u> <u>(ug/liter)</u>
Chloromethane . . . . .		N.D.
Bromomethane. . . . .		N.D.
Vinyl Chloride . . . . .		N.D.
Chloroethane . . . . .		N.D.
Methylene Chloride . . . . .		N.D.
Trichlorof bromethane . . . . .		N.D.
1,1 - Dichloroethane. . . . .		N.D.
1,1 - Dichloroethane. . . . .		N.D.
Trans- 1,2 -Dichloroethene . . . . .		N.D.
Chloroform. . . . .		N.D.
1,2 - Dichloroethane . . . . .		N.D.
1,1,1 - Trichloroethane . . . . .		N.D.
Carbon Tetrachloride . . . . .		N.D.
Bromodichloromethane . . . . .		N.D.
1,2 - Dichloropropane . . . . .		N.D.
Trans + 1,3, -Dichloropropene . . . . .		N.D.
Trichloroethene . . . . .		N.D.
Dibromochloromethane . . . . .		N.D.
1,1,2 - Trichloroethane . . . . .		N.D.
cis - 1,3 - Dichloropropene . . . . .		N.D.
Benzene . . . . .		N.D.
2 - Chloroethylvinyl ether . . . . .		N.D.
Bromoform . . . . .		N.D.
1,1,2,2 - Tetrachloroethane . . . . .		N.D.
Tetrachloroethene . . . . .		N.D.

<u>COMPOUND</u>	<u>CONCENTRATION</u> ( $\mu\text{g/liter}$ )
Toluene . . . . .	N.D.
Chlorobenzene . . . . .	N.D.
Ethylbenzene . . . . .	N.D.

NOTE: N.D. - Less than or equal to 10  $\mu\text{g/l}$

ATTACHMENT

# Report of Chemical Analysis

Consulting Geotechnical, Materials and Environmental Engineers,  
Geologists, Scientists and Chemists



Raba-Kistner  
Consultants, Inc.

To:  
Kerr-Ban Furniture Manufacturing Co., Inc.  
I.H. 35  
San Marcos, Texas

10526 Goliad/P.O. Box 322  
San Antonio, Texas 782  
(512) 342-42

Project No: 761-20  
Date Received: 12-24-81  
Date Reported: 1-6-82  
Submitted By: D. Smith, R-KCI

Sample Description/Code: 6-0624 Soil Sample Disposal Site

## SUMMARY OF ANALYSIS

Determination	Analytical Method	Results	Miscellaneous
Arsenic	206.3 <sup>1,2</sup>	<0.05 mg/L	Leachate <sup>3</sup>
Barium	208.1 <sup>1</sup>	<0.50 mg/L	Leachate <sup>3</sup>
Cadmium	213.1 <sup>1</sup>	<0.10 mg/L	Leachate <sup>3</sup>
Chromium	218.1 <sup>1</sup>	<0.50 mg/L	Leachate <sup>3</sup>
Mercury	245.1 <sup>1,2</sup>	<0.005 mg/L	Leachate <sup>3</sup>
Lead	239.1 <sup>1</sup>	<1.0 mg/L	Leachate <sup>3</sup>
Selenium	270.3 <sup>1,2</sup>	<0.05 mg/L	Leachate <sup>3</sup>
Silver	272.1 <sup>1</sup>	<0.10 mg/L	Leachate <sup>3</sup>

Special Comments: 1 of 2 pages

1. Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020.
2. Modified by NaBH<sub>4</sub> substitution.
3. Texas Department of Water Resources - Modified to single leach of non-dried sample.

Raba-Kistner Consultants, Inc.

by

ATTACHMENT

# Report of Chemical Analys.<sup>s</sup>

Consulting Geologists, Materials and Environmental Engineers, Geologists, Scientists and Chemists



Raba-Kistner  
Consultants, Inc.

10526 Gulldale/P.O. Box 321  
San Antonio, Texas 78211  
(512) 342-4141

To: Kerr-Bar Furniture Manufacturing Co., Inc.  
I.H. 35  
San Marcos, Texas

Project No: 781-20  
Date Received: 12-24-81  
Date Reported: 1-6-82  
Submitted By: D. Smith, R-KC1

Sample Description/Code: 6-0624 Soil Sample Disposal Site

## SUMMARY OF ANALYSIS

**Special Comments:** 2 of 2 pages

4. Purgeables - Method 624  
49 CFR, part 136 in Federal Register  
Vol. 44, No. 233, Monday, Dec. 3, 1979.

Raba-Kistner Consultants, Inc.

by R. Thiesen

by R. Madsen ATTACHMENT

## PURGEABLES

CONCENTRATION  
(ug/liter)COMPOUND

Chloromethane . . . . .	N.D.
Bromomethane. . . . .	N.D.
Vinyl Chloride . . . . .	N.D.
Chloroethane . . . . .	N.D.
Methylene Chloride . . . . .	N.D.
Trichlorofluoromethane . . . . .	N.D.
1,1 - Dichloroethene. . . . .	N.D.
1,1 - Dichloroethane. . . . .	N.D.
Trans- 1,2 -Dichloroethene . . . . .	N.D.
Chloroform. . . . .	N.D.
1,2 - Dichloroethane . . . . .	N.D.
1,1,1 - Trichloroethane . . . . .	N.D.
Carbon Tetrachloride . . . . .	N.D.
Bromodichloromethane . . . . .	N.D.
1,2 - Dichloropropane . . . . .	N.D.
Trans - 1,3, -Dichloropropene . . . . .	N.D.
Trichloroethene . . . . .	N.D.
Dibromoethylchloromethane . . . . .	N.D.
1,1,2 - Trichloroethane . . . . .	N.D.
cis - 1,3 - Dichloropropene . . . . .	N.D.
Benzene . . . . .	N.D.
2 - Chloroethylvinyl ether . . . . .	N.D.
Bromoform . . . . .	N.D.
1,1,2,2 - Tetrachloroethane . . . . .	N.D.
Tetrachloroethene . . . . .	N.D.

ATTACHMENT

COMPOUNDCONCENTRATION  
( $\mu\text{g/liter}$ )

Toluene . . . . .	N.D.
Chlorobenzene . . . . .	N.D.
Ethylbenzene . . . . .	N.D.

NOTE: N.D. - Less than or equal to 10  $\mu\text{g/l}$

ATTACHMENT

# Report of Chemical Analysis

Consulting Geologists, Materials and Environmental Engineers,  
Geologists, Scientists and Chemists



Raba-Kistner  
Consultants, Inc.

10526 Gulfdale/P.O. Box 322  
San Antonio, Texas 782  
(512) 342-62

Kerr-San Furniture Manufacturing Co., Inc.  
I.H. 35  
San Marcos, Texas

Project No: 781-20  
Date Received: 12-24-81  
Date Reported: 1-6-82  
Submitted By: D. Smith, R-KCI

Sample Description/Code: 6-0625 Soil Sample Disposal Site

## SUMMARY OF ANALYSIS

Determination	Analytical Method	Results	Miscellaneous
Arsenic	206.3 <sup>1,2</sup>	<0.05 mg/L	Leachate <sup>3</sup>
Barium	208.1 <sup>1</sup>	<0.50 mg/L	Leachate <sup>3</sup>
Cadmium	213.1 <sup>1</sup>	<0.10 mg/L	Leachate <sup>3</sup>
Chromium	218.1 <sup>1</sup>	<0.50 mg/L	Leachate <sup>3</sup>
Mercury	245.1 <sup>1,2</sup>	<0.005 mg/L	Leachate <sup>3</sup>
Lead	239.1 <sup>1</sup>	<1.0 mg/L	Leachate <sup>3</sup>
Selenium	270.3 <sup>1,2</sup>	<0.05 mg/L	Leachate <sup>3</sup>
Silver	272.1 <sup>1</sup>	<0.10 mg/L	Leachate <sup>3</sup>

Special Comments: 1 of 2 pages

1. Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020.
2. Modified by NaBH<sub>4</sub> substitution.
3. Texas Department of Water Resources - Modified to single leach of non-dried sample.

Raba-Kistner Consultants, Inc.

by \_\_\_\_\_

ATTACHMENT

# Report of Chemical Analysis

## **Consulting Geologists, Materials and Environmental Engineers, Geologists, Scientists and Chemists**



**Raba-Kistn  
Consultants, Inc.**

10526 Gulfdale/P.O. Box 32:  
San Antonio, Texas 78  
(512) 342-4

To: Kerr-Ban Furniture Manufacturing Co., Inc.  
I.H. 35  
San Marcos, Texas

Project No: 781-20

Date Received: 12-24-81

Date Reported: 1-6-82

Submitted By: D. Smith, P-KCI

Sample Description/Code: 6-0525 Soil Sample Disposal Site

## SUMMARY OF ANALYSIS

**Special Comments:** 2 of 2 pages

4. Purgeables - Method 524  
49 CFR, part 136 in Federal Register  
Vol. 44, No. 233, Monday, Dec. 3, 1979.

## Raba-Kittner Consultants, Inc.

by R. Thelton ATTACHMENT

PROJECT NO. 781-20  
SAMPLE NO. 6-0625

PURGEABLES

CONCENTRATION  
(:g/liter)

<u>COMPOUND</u>	
Chloromethane . . . . .	N.D.
Bromomethane . . . . .	N.D.
Vinyl Chloride . . . . .	N.D.
Chloroethane . . . . .	N.D.
Methylene Chloride . . . . .	N.D.
Trichlorofluoromethane . . . . .	N.D.
1,1 - Dichloroethene . . . . .	N.D.
1,1 - Dichloroethane . . . . .	N.D.
Trans- 1,2 -Dichloroethene . . . . .	N.D.
Chloroform . . . . .	N.D.
1,2 - Dichloroethane . . . . .	N.D.
1,1,1 - Trichloroethane . . . . .	N.D.
Carbon Tetrachloride . . . . .	N.D.
Bromodichloromethane . . . . .	N.D.
1,2 - Dichloropropane . . . . .	N.D.
Trans - 1,3, -Dichloropropene . . . . .	N.D.
Trichloroethene . . . . .	N.D.
Dibromochloromethane . . . . .	N.D.
1,1,2 - Trichloroethane . . . . .	N.D.
cis - 1,3 - Dichloropropene . . . . .	N.D.
Benzene . . . . .	N.D.
2 - Chlrloroethylvinyl ether . . . . .	N.D.
Bromoform . . . . .	N.D.
1,1,2,2 - Tetrachloroethane . . . . .	N.D.
Tetrachloroethene . . . . .	N.D.

ATTACHMENT

<u>COMPOUND</u>	<u>CONCENTRATION</u> ( $\mu\text{g/liter}$ )
Toluene . . . . .	N.D.
Chlorobenzene . . . . .	N.D.
Ethylbenzene . . . . .	N.D.

NOTE: N.D. - Less than or equal to 10  $\mu\text{g/l}$

ATTACHMENT

# Report of Chemical Analysis

Consulting Geologists, Materials and Environmental Engineers,  
Geologists, Scientists and Chemists



Raba-Kistner  
Consultants, Inc.

10526 Guadalupe/P.O. Box 32  
San Antonio, Texas 78216  
(512) 342-4

To:

Kerr-Ban Furniture Manufacturing Co., Inc.  
I.H. 35  
San Marcos, Texas

Project No: 781-20  
Date Received: 12-24-81  
Date Reported: 1-6-82  
Submitted By: D. Smith, R-KCI

Sample Description/Code: 6-0526 Soil Sample Disposal Site

## SUMMARY OF ANALYSIS

Determination	Analytical Method	Results	Miscellaneous
Arsenic	206.3 <sup>1,2</sup>	<0.05 mg/L	Leachate <sup>3</sup>
Barium	208.1 <sup>1</sup>	<0.50 mg/L	Leachate <sup>3</sup>
Cadmium	213.1 <sup>1</sup>	<0.10 mg/L	Leachate <sup>3</sup>
Chromium	218.1 <sup>1</sup>	<0.50 mg/L	Leachate <sup>3</sup>
Mercury	245.1 <sup>1,2</sup>	<0.005 mg/L	Leachate <sup>3</sup>
Lead	239.1 <sup>1</sup>	<1.0 mg/L	Leachate <sup>3</sup>
Selenium	270.3 <sup>1,2</sup>	<0.05 mg/L	Leachate <sup>3</sup>
Silver	232.1 <sup>1</sup>	<0.10 mg/L	Leachate <sup>3</sup>

Special Comments: 1 of 2 pages

1. Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020.
2. Modified by NaBH<sub>4</sub> substitution.
3. Texas Department of Water Resources - Modified to single leach of non-dried sample.

Raba-Kistner Consultants, Inc.

by \_\_\_\_\_

ATTACHMENT

# Report of Chemical Analysis

## **Consulting Geologists, Materials and Environmental Engineers, Geologists, Scientists and Chemists**



Raba-Kistner  
Consultants, Inc.

10526 Gulfdale/P.O. Box 322  
San Antonio, Texas 78212  
(512) 342-42

To: Kerr-Ban Furniture Manufacturing Co., Inc.  
I.H. 35  
San Marcos, Texas

Project No: 781-20  
Date Received: 12-24-81  
Date Reported: 1-6-82  
Submitted By: D. Smith, R-KCI

Sample Description/Code: 6-626 Soil Sample Disposal Site

## SUMMARY OF ANALYSIS

Special Comments: 2 of 2 pages

4. Purgeables - Method 624  
49 CFR, part 136 in Federal Register  
Vol. 44, No. 233, Monday, Dec. 3, 1979.

Raba-Kistner Consultants, Inc.

by

R. Thiesen ATTACHMENT

## PURGEABLES

CONCENTRATION  
(ug/liter)COMPOUND

Chloromethane . . . . .	N.D.
Bromomethane. . . . .	N.D.
Vinyl Chloride . . . . .	N.D.
Chloroethane . . . . .	N.D.
Methylene Chloride . . . . .	N.D.
Trichlorofluoromethane . . . . .	N.D.
1,1 - Dichloroethene. . . . .	N.D.
1,1 - Dichloroethane. . . . .	N.D.
Trans- 1,2 -Dichloroethene . . . . .	N.D.
Chloroform. . . . .	N.D.
1,2 - Dichloroethane . . . . .	N.D.
1,1,1 - Trichloroethane . . . . .	N.D.
Carbon Tetrachloride . . . . .	N.D.
Bromodichloromethane . . . . .	N.D.
1,2 - Dichloropropane . . . . .	N.D.
Trans + 1,3, -Dichloropropene . . . . .	N.D.
Trichloroethene . . . . .	N.D.
Dibromochloromethane . . . . .	N.D.
1,1,2 - Trichloroethane . . . . .	N.D.
cis - 1,3 - Dichloropropene . . . . .	N.D.
Benzene . . . . .	N.D.
2 - Chloroethylvinyl ether . . . . .	N.D.
Bromoform . . . . .	N.D.
1,1,2,2 - Tetrachloroethane . . . . .	N.D.
Tetrachloroethene . . . . .	N.D.

ATTACHMENT

<u>COMPOUND</u>	<u>CONCENTRATION</u> ( <u>ug/liter</u> )
Toluene . . . . .	N.D.
Chlorobenzene . . . . .	N.D.
Ethylbenzene . . . . .	N.D.

NOTE: N.D. - Less than or equal to 10 ug/l

*fast*  
*ATTACHMENT*  
*223-82*